CHAPTER 3

P2 Program Elements

P2 PROGRAM PLANNING

Before planning begins, the team seeking to implement the P2 program should consider preparing a **vision statement,** a **mission statement,** and a **statement of goals.** If similar statements already exist for the organization, you should see how P2 fits into these existing statements. If the organization has no formal statements, the P2 program team may wish to draft these statements to help provide some focus to their efforts. It is important not to get side tracked on trying to differentiate between vision statements, objectives, values, purpose, guidelines, covenants, standard of performance, mission statements, core values and guiding principles. For the purposes of talking about P2 planning, we will adopt some simple definitions that can be modified as you see fit.

A vision statement represents what the organization wants in terms of P2. A mission statement identifies what the organization needs to accomplish, in the future, in the key areas that affect P2 and its business. A mission statement specifies an organization's purpose or "reason for being." It is the primary objective toward which the organization's plans should be aimed. The mission is something to be accomplished, while a vision is something to be pursued. Goals establish the metrics that will be used to measure progress. Indicators are used to measure progress along the way. These statements and measures will help provide a good foundation for the P2 plan that your organization develops. Some of these statements may already have been formulated in an ISO 14001 effort or other EMS initiative. Planning provides an organization with a time frame in which to ask questions related to the enactment of P2 programs (see Box 3-1). Considering these questions will encourage the proper thought and analysis for your planning effort.

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Goals establish the metrics that will be used to measure progress. Indicators are used to measure progress along the way.

Box 3-1. Questions to Consider During the P2 Planning Process

Where are we right now?
Where do we want to go?
How do we get there?
When do we want to arrive?
Who will get us there?
What will it cost?
How do we measure results?
Who will help accomplish the plan?
When will each goal be completed?
What are the expected results?

Vision Statement

A key component of a P2 Plan is the ***vision statement***. It provides a way of seeing or conceiving what the organization wants to achieve in the P2 program. The vision of the organization usually provides a concise word picture of the organization at some future time. This helps set the overall direction of the organization. The vision statement defines what the organization strives to be. (If you are seeking environmental excellence, the criteria described in Chapter 7 may be helpful in defining what you want to achieve.)

Sustainable development programs, like "The Natural Step," have successfully posed a vision of the future framed by four system conditions. Reviewing a vision statement from a sustainable development program such as this can help you develop a general direction, image, and philosophy to guide your organization in its P2 program.

It is difficult to find a perfect example of a vision statement. Several samples are provided so you can see how others have addressed this issue. Does your organization already have a vision statement? How would the statement change if some element of P2 or sustainable development were added to it?

Sample Vision Statements

At Olin, we sum up our commitment to achieving excellence in the realms of workplace health and safety with one phrase: The Goal is Zero. As this phrase indicates, our health and safety programs begin with the premise that no amount of workplace injuries or illnesses is acceptable. These initiatives not only make good ethical and moral sense, but they respond to what our customers demand and our communities expect. This includes operating in a safe and environmentally sound manner, practicing good product stewardship in teaching others how to safely and properly handle our products, and providing our employees with the training and resources to do the right thing.

Reference: http://www.olin.com/environment/default.asp

We are dedicated to transforming DuPont into a sustainable growth company. We will hold onto the core values that define "who we are" but reshape our portfolio as needed to achieve growth in the new global economy. We will intensify our efforts to reduce our environmental footprint by beginning the transition to renewable feedstocks and energy. We will expand our market focus and begin to understand how we can deliver the miracles of science to a much greater percentage of the world's population than we do today. And, we will strive to increase shareholder value in a way that is less "materials and energy" intensive and more "knowledge and service" intensive.

Reference: http://www.dupont.com/corp/environment/comment.html

The National Park Service strives to facilitate a culture of environmental stewardship and sustainable development.

Reference: http://es.epa.gov/oeca/fedfac/complian/emsrcemp.pdf

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> The USPS is committed to conducting all of its activities in a way that protects human health and the environment.
>
> In establishing environmental policies and practices the USPS will, as appropriate, promote the sustainable use of natural resources and protection of the environment through conservation, recycling, and reuse of material in its own operations.
>
> The USPS encourages the use of non-polluting technologies and waste minimization in the development of equipment, products, and operations. Awareness of environmental responsibilities and adherence to sound environmental practices is encouraged.
>
> Reference: http://www.usps.gov/environ/textmirr/webpages/envco.htm#INTRO

Mission Statement

The second component of a P2 plan is the ***mission statement***. This statement needs to "send forth" the people in an organization to take P2 actions that will accomplish the vision statement. A good mission statement should include all of the essential components of an organization's future thrust and communicate a positive feeling that will guide others to action. Think of the mission statement as providing the overriding purpose of P2 in the organization. An effective statement should explain how P2 could be integrated into other business initiatives.

As with the vision statements above, there are many ways to express an organization's mission. Some examples are provided here to help your organization begin the task of preparing a mission statement. If your organization already has a mission statement, how would it change with some P2 or sustainable development clauses added to it? Does the P2 program 's mission reflect the mission of the organization as a whole?

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Sample Mission Statements

The Environment, Health, and Safety Program will be implemented and maintained and will provide reasonable assurance that the corporation

- complies with all applicable governmental and internal health, safety, and environmental requirements.
- operates plants and facilities in a manner that protects the environment and the health and safety of its employees and the public.
- develops and produces products that can be manufactured, transported, used, and disposed of safely.
- recognizes and responds to community concerns about chemicals and our operations.
- makes health, safety, and environmental considerations a priority in planning for all existing and new products and processes.
- reports promptly to officials, employees, customers, and the public information on health or environmental hazards, and recommends protective measures.

- counsels customers on the safe use, transportation, and disposal of chemical products.
- extends knowledge by conducting or supporting research on the health, safety, and environmental effects of products, processes, and waste materials.
- works with others to resolve problems created by past handling and disposal of hazardous substances.
- participates with government and others to create responsible laws, regulations, and standards to safeguard the community, workplace, and environment.
- promotes the principles and practices of Responsible Care by sharing experiences and offering assistance to others who produce, handle, use, transport, or dispose of chemicals.

Reference: http://www.unioncarbide.com/respcare/1998/whoweare.html

We affirm to all our stakeholders, including our employees, customers, shareholders and the public, that we will conduct our business with respect and care for the environment. We will implement those strategies that build successful businesses and achieve the greatest benefit for all our stakeholders without compromising the ability of future generations to meet their needs.

We will continuously improve our practices in light of advances in technology and new understandings in safety, health and environmental science. We will make consistent, measurable progress in implementing this Commitment throughout our worldwide operations. DuPont supports the chemical industry's Responsible Care® and the oil industry's Strategies for Today's Environmental Partnership as key programs to achieve this Commitment.

Reference: http://www.dupont.com/corp/environment/commitment.html

Statement of Goals

The third basic component of a P2 plan is the ***statement of goals***. Goals are specific statements that express where the organization wishes to go within a specific time period (e.g., this financial quarter). The quantitative measures used are absolute. Goals can be defined in action plans prepared to help implement the P2 program. Action plans are discussed in Chapter 4. Setting goals and objectives in a P2 program are also addressed in Chapter 6.

Goals can be defined in action plans prepared to help implement the P2 program.

Many P2 programs state quantitative and specific goals of both a short-term and long-term nature. Sometimes the goals are set during the initial planning period of the P2 program. In other cases, the goals are to be set after much more information has been gathered and analyzed. Once the goals are set, it is important to measure their progress over time.

Some quality experts feel that goals actually tend to hold an organization back because no one ever tries to exceed the goals by a significant amount. These people have suggested that organizations constantly measure their continual improvement effort in specific areas.

Indicators

During the planning stage, many organizations start considering the use of **indicators**. An indicator is a metric that helps you understand where you are, which way you are going, and how far you are from where you want to be. Indicators can be based at the organizational level (e.g., environmental training hours per worker, conservation of resources, reduction in emissions, good housekeeping, operational and maintenance practices) or at the government level (e.g., area-wide greenhouse gas concentrations, biodiversity in major rivers, acres of trees impacted by acid rain). Indicators are used to express the outcomes of the performance improvements that are made in the P2 program and are further covered in the "results" section of the quality model presented in Chapter 7. These environmental results actually link the performance indicators with the cost to and benefits for the organization.

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Sustainable development programs use indicators that link economy, environment, and the community. The element of community represents both workers and the other *interested* parties associated with the organization. Examples of indicators are given in Box 3-2 (Reference 3-1).

Sustainable development programs use indicators that link economy, environment, and the community.

Box 3-2. Examples of Indicators

- Number of people going to clinics for respiratory problems
- Ratio of renewable to non-renewable energy consumption
- Public awareness of hazardous materials/waste issues as measured by annual survey
- Tons of waste landfilled annually
- Recycling rate as a percentage of material generated
- Percentage of residents, businesses, and institutions that participate in recycling programs
- Recycled water use
- Mass of pollutants in wastewater
- Number of enterprises adopting ISO 14001 standards
- Number of hazardous materials incidents
- Number of schools that integrate and progressively update environmental education in their curricula
- Number of organizations with formal pollution prevention plans

These components of the P2 plan help determine the strategy of the organization's P2 program. The strategy or actions decided upon reflect the way the organization plans to achieve its objectives and goals. Organizations should develop strategies for every goal that it plans to implement. A good way to develop these strategies is by preparing an action plan. This tool and other tools useful in implementing P2 programs are discussed in Chapters 6 and 7.

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CORE VALUES

Because the P2 program deals with change in the organization, it is essential that you express the core values that must be achieved as

you integrate key business requirements within a results-orientated P2 framework. These core values are also referred to as **_guiding principles_**. They will help bridge the gap between the various components discussed previously by identifying the fundamental, underlying beliefs that guide the actions within the organization. All organizations have a set of core values, although in some cases they do not exist in written form.

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Each element of the organization's P2 program should link itself with the organization's core values. Certainly, there are no prescriptive ways to do this. Each organization must approach these core values in a manner that fits the local organizational culture.

Following are examples of several core values that could be reflected in a P2 program. Paying particular attention to how these core values relate to the organization's core values is a very important component of a P2 program (References 3-2, 3-3).

Interested-Party–Driven P2

This core value recognizes what various interested parties would like to gain from a P2 program and ensures to it that they get what they want.

This core value recognizes what various interested parties would like to gain from a P2 program and ensures that they get what they want. If P2 saves money, managers and shareholders will support it. If P2 helps an organization stay in compliance, regulators will support it. If P2 helps improve working conditions, employees will support it.

A P2 program should work to build trust, confidence, and loyalty by not just meeting interested party requirements, but going the extra distance to reduce waste and conserve resources.

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By comparing your program with other P2 programs, your organization's commitment to P2 and sustainability can be differentiated from that of the competition. This unique focus, which probably fits well within your organization's culture, should leave the interested parties delighted—not just satisfied—by the P2 program.

Interested Parties Include:

- Customers
- Employees
- Suppliers
- Regulators
- Public groups and non-government organizations (NGOs)
- Community Groups

Leadership

All senior leaders in the organization must create an interested-party orientation. They must set clear and visible P2 values and have

high expectations. These values and expectations are reinforced by a substantial personal commitment to the P2 program. Leaders should serve as role models throughout the organization, thus reinforcing the P2 core values at all levels. In other words, they should "walk the talk." Management must have active, visible leadership roles in the ongoing strategic planning process to incorporate P2 into all business functions. Leadership's commitment to environmental performance is demonstrated through consistent decisions on resource allocations such as money and employees for P2 program implementation and evaluation. If the P2 program is perceived as just another environmental initiative, this leadership core value cannot be realized.

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Continual Improvement

Every organization must strive for continual improvement. The organization should also have a commitment to the continual elimination and reduction of waste. These goals can be accomplished by encouraging creativity, maintaining a continual improvement environment, and recognizing and rewarding employees for doing a good job. Employees at all levels and in all areas of the organization should be actively involved and contribute ideas for P2 and P2 program improvement.

The organization should also have a commitment to the continual elimination and reduction of waste.

The P2 program cannot be oriented to simply completing individual P2 projects. It must take the knowledge gained and use it to address other P2 opportunities. This use of "lessons learned" fosters continual improvement. The P2 program must always strive for zero waste, zero emissions, and conservation of all resources. Zero is where continual improvement should strive to be.

Valuing Employees

An organization's P2 success depends increasingly on the knowledge, skills, innovative creativity, and motivation of its workforce. Employee success depends increasingly on being given opportunities to learn and practice new skills. Organizations need to invest in the development of their workforces through education, training, and opportunities for continuing growth. Such opportunities include enhanced P2 awareness and rewards for demonstrated P2 knowledge and skills. On-the-job training offers a cost-effective way to train and better link P2 training to work processes. Education and training programs may need to utilize advanced technologies, such as computer-based learning and satellite broadcasts. Increasingly, training, development, and work units need to be tailored to a diverse workforce and to more flexible, high performance P2 work practices. These items will prepare employees and the organization for success.

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Designing Quality and Prevention Together

By building quality into products and services in the production process, an organization reduces the need to correct problems downstream. This mind-set leads to prevention rather than detection. A P2 program provides an effective process for evaluating, planning, and controlling changes to existing products and the design of new products that would generate less waste in the production process and at the end of their useful life.

For years, P2 technical assistance providers have recognized the importance of design as a means of P2 progress through a concept called "Design for Environment." However, instead of handling this as a separate initiative, the need for design changes must infuse all P2 activities as a core value. Successful organizations charge their P2 multifunction teams with the responsibility for creating high-quality products that are inexpensive to manufacture while using fewer toxic materials and generating less waste. Whenever possible, these organizations involve key suppliers at an early stage of the new product development in order to determine the types and constituents of wastes, and to address potential health and safety issues. Many quality philosophies work very well in P2 programs.

Long-Range Outlook

To achieve P2 goals, organizations must make long-term commitments to all interested parties—customers, employees, suppliers, regulators, shareholders, the public, and the community. To develop a long-range outlook, an organization must anticipate many types of change, including:

- Strategic moves by competitors
- Evolving regulatory requirements
- Technological developments
- Stakeholder expectations
- Community expectations

Management by Fact

Many organizations rely on anecdotal information to indicate their progress. In the P2 field, mountains of case histories feed this tendency.

By contrast, management relies on specific, measurable data. The P2 feedback system must be built on objective data and analysis, all of which are quantitative and can be charted over time. Most of this information can be gathered quite easily, with no need for sophisticated statistical techniques. The information needs to be comprehensive and timely enough for all levels of workers to understand the current performance of the P2 program.

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When an organization has this information, it has positioned itself to monitor its progress efficiently. It can then compare its performance to that of competitive or benchmarked organizations and evaluate its P2 action.

Partnership Development

Successful organizations build internal and external partnerships to help them accomplish their overall P2 goals. Examples of internal partnerships include better labor-management cooperation, employee development, cross-training, and the creation of worker P2 teams. Some organizations have concerted training programs and active employee involvement. This engenders good communication between management and workers. Employee involvement needs should be assessed often to ensure that sufficient resources are provided to assist these programs in their P2 efforts.

Successful organizations build internal and external partnerships to help them accomplish their overall P2 goals.

External partnerships include cooperation with customers, suppliers, regulators, and other outside organizations and interested parties. For example, hotels and hospitals can create partnerships to improve their similar work processes and benchmark their gains with each other. Many trade associations have created partnerships for P2 best practices. Strong partnerships with key suppliers that are mutually beneficial can improve cost competitiveness, quality, and overall responsiveness, as well as minimize toxics use and waste. Key suppliers can participate in the development and design of shipping and packaging materials that incorporate good ergonomics and reduce or eliminate other wastes. It is helpful for the external partners to have a financial or other stake in the achievement of the organization's goals for the P2 program.

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Corporate Responsibility and Citizenship

Successful organizations always address their corporate and citizenship responsibilities. Corporate responsibility refers to the basic expectations of the organization and includes business ethics and the protection of public health, safety, and the environment. Corporate citizenship refers to the leadership and support of publicly important purposes, such as education, environmental excellence, improved industry and business practices, and the sharing of nonproprietary P2-related information. Leadership as a corporate citizen also entails influencing other organizations, private and public, to partner for these purposes.

Corporate citizenship refers to the leadership and support of publicly important purposes, such as education, environmental excellence, improved industry and business practices, and the sharing of nonproprietary P2-related information.

Fast Response

Permits and regulatory compliance often add significant time to organizational decision-making. Success in globally competitive markets demands ever-shorter cycles for introductions of new or improved

products and services. Also, a faster and more flexible response to interested parties is now a more critical requirement. Major improvements in response time often require simplification of work units and processes together with timely incorporation of P2 into the design phase (e.g., design for environment). To accomplish this, the P2 performance of work processes should be among the key process measures. Other important benefits can be derived from this focus on time. Time improvements often drive simultaneous improvements in organization, quality, P2, cost, and productivity. Hence, it is beneficial to integrate response time, quality, P2, and productivity objectives.

SELECTING PROGRAM ELEMENTS

P2 programs are composed of a number of program elements. Different organizations often mix and match these elements to construct a program that meets the intent of their P2 vision.

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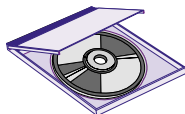
1. Provide top management support
2. Characterize the process
3. Perform periodic assessments
4. Maintain a cost allocation system
5. Encourage technology transfer
6. Conduct program evaluations

Let's take a brief look at each of these elements. Keep in mind that individual organizations may include additional elements in their P2 programs for their own purposes or to comply with state P2 planning requirements. The number of elements used and the degree to which each element is stressed should be a function of the group implementing the P2 program in each organization.

1. Provide Top Management Support

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Top management support is essential for ensuring that P2 becomes an organizational goal. You will remember that leadership is considered to be an important core value. Most articles written on quality programs list upper-level management support as the single most im-

portant program element. Management should encourage employees at all levels of the organization to identify opportunities to reduce waste generation and promote energy and water conservation. Management should also encourage employees to adopt the P2 philosophy in day-to-day operations and identify new opportunities at meetings and other organizational functions. P2 should be a process of continual improvement when incorporated into an organization's policy. Ideally, a P2 program should become an integral part of management's strategic plan to increase productivity and quality.

Some techniques top management can use to demonstrate their support are:

- Serve on the P2 oversight committee and be active in approving strategic P2 goals.
- Include P2 goals in business planning efforts that are independent of the environmental program. Integration into core business practice is key to the long-term viability of P2 efforts.
- Revise the compensation/merit system to recognize P2 contributions.
- Ensure that P2 action plans with measurable goals be put in writing.
- Commit the organization to implementing P2 action plans.
- Provide training for all employees on how resource use and production losses result from wasteful work processes.
- Publicize P2 results.

2. Characterize the Process and Assess P2 Opportunities

Some P2 assessments focus on wastes being generated by a facility's main processes. In contrast, process characterization leads to the identification of all P2 opportunities (including those in related ancillary and intermittent operations), not just the ones uncovered in a limited P2 assessment or walk-through. Both resource use and loss are considered.

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An effective way to conduct process characterization is through the use of hierarchical process maps. These maps (see Chapter 4) can be used to analyze all processes, including ancillary and intermittent operations. An organization using this assessment method can also examine energy and water use, landscaping, commuting, noise, odor, and other aspects of their operations. These process maps can also be used as templates for collecting information on resource use and the loss of resources, with the information organized by work step. Some organizations use process maps as a means for maintaining a resource use and loss accounting system to track the types and amounts of resources involved, including the rates and dates they are used or lost.

Process maps can also be used to assess the costs of resource use by work step. These costs can then be used to rank order opportunities for P2 and charge back the costs to the processes and products that are responsible for creating the waste—a sort of internal "polluter pays" principle. It is very important to focus not on the wastes, but rather on the processes and products that are responsible for them. Every resource used in a process represents an opportunity to conserve the use of that resource, and every loss or waste from a process represents an opportunity not to generate that loss or waste.

3. Perform Periodic P2 Assessments

In the Systems Approach, P2 assessments are used to verify and update process maps. As each P2 opportunity is examined, a P2 assessment can be used to gather new information (including cost data) necessary to support the use of other Systems Approach problem-solving and decision-making tools.

The organization should decide the best method to use for performing P2 assessments and related data gathering. Once this is decided, individual processes and procedures should be reviewed periodically. In some cases, performing complete resources balances for some work steps in the process maps can be helpful. P2 assessment teams can revisit existing process maps or prepare new ones. Process maps from the main process can be linked to process maps of related ancillary and intermittent operations that support these processes. Process maps can be prepared for different products or families of products. The end goal may be to have a complete "book of process maps" after a number of years of periodic P2 assessments.

True costs associated with resource use and loss will change over time. Periodic P2 assessments can be used to update the cost information in the process map templates. Many organizations track resources used and lost by a variety of means and then normalize the results to account for variations in production rates. Each organization should find the best method to account for the true costs of resource use and loss in its operations.

Analyzing the cost and benefits of each P2 opportunity is an important process, especially when the true costs of managing environmental wastes, discharges, and emissions are considered. Organizations should establish a good method for selecting P2 opportunities to include in the P2 program each year. Assessments should support and invigorate a P2 program. They should not be the basis upon which the P2 program is built.

4. Maintain a Cost Allocation System

The EPA suggests that organizations track all the costs associated with resource use and loss and charge them back to the pro-

cesses and products responsible for these costs instead of assigning them to facility overhead. These costs include those that flow from the general ledger, the cost of resources lost in the waste itself, and the activity-based costs of managing the losses. When all these categories are included, it is not uncommon for a company's waste costs to be increased by three to five times.

Not all processes and products use and lose resources equally. Ideally, each product should bear the burden of all the environmental, health, and safety services that it uses. Managers are encouraged to utilize accounting systems that generate valid product costs, reflecting the true costs involved in producing and delivering the organization's products and ensuring proper environmental management of resources, wastes, emissions, and discharges. This is good business because it will avoid putting an unfair overhead burden on cleaner products; such products can then be sold for less money or as "premium" products.

The limitations of traditional performance measurements, particularly those methods related to overhead allocation, can produce misleading or incorrect information. Whenever possible, accounting procedures and paperwork should be simplified, eliminating non-value adding activities while providing accurate information for decision-making and audit requirements. They should also be consistent. Financial personnel, for example, should be using the same source data as other personnel. Managerial accounting methods can be used like project management methods in most organizations. Such information can be reconciled on a periodic basis as it is allocated to products and families of products. Further information on environmental accounting can be found on the CD-ROM.
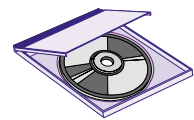
5. Encourage Technology Transfer

It is important for an organization to seek or exchange technical information on P2 from other parts of the organization, other companies, trade associations, professional associations, consultants, vendors, and university or government technical assistance programs. A considerable amount of time, effort, and taxpayer money has already been invested by public technical assistance programs and universities to research P2 alternatives for specific industries and processes. Although it is risky to use this information as a "silver bullet" for the P2 problems faced by any particular organization, the information does offer some potential technology options that facilities can consider when they generate and prioritize P2 alternatives.

Organizations are encouraged to share the nonproprietary knowledge they have gained in their P2 programs through trade associations and other information clearinghouses. Many P2 award programs require the participants to share the information that was submitted in the application for the award.

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6. Conduct Program Evaluations

Organizations should implement any cost-effective recommendations identified by their P2 program planning efforts. They are encouraged to conduct periodic evaluations of P2 program effectiveness to provide feedback and to identify potential areas for improvement. During the evaluation, it is important to determine what was learned from each P2 activity and how that information will be utilized in constructing P2 action plans for the coming year. P2 programs can also be benchmarked against others. Reviews can be conducted internally or performed with an independent third party. Many companies now accept the practice of using third-party individuals because they already are employing them in their ISO 9000 and ISO 14001 programs. The quality model (see Chapter 7) also offers a way to measure progress made by a P2 program and have it scored by an independent team of trained examiners.

Other Program Elements

There may also be other elements that can be included in the program. For example, the American Chemistry Council's (ACC) Responsible Care® Program has a "Pollution Prevention Code of Management Practices" (Reference 3-4). One of the items required in this program is: "Inclusion of waste and release prevention objectives in research and in design of new or modified facilities, processes, and products." The National Pollution Prevention Roundtable has published a white paper on facility pollution prevention planning (Reference 3-5) that could also be helpful in finding other P2 program elements.

The ACC's P2 Code states that each member company shall have a P2 program that shall include the following:

1. "A clear commitment by senior management through policy, communications, and resources to ongoing reductions at each of the company's facilities in releases to the air, water, and land, and in the generation of wastes.
2. A quantitative inventory at each facility of wastes generated and releases to the air, water, and land, measured or estimated at the point of generation or release.
3. Evaluation, sufficient to assist in establishing reduction priorities, of the potential impact of releases on the environment and the health and safety of employees and the public.
4. Education of, and dialogue with, employees and members of the public about the inventory, impact evaluation, and risks to the community.
5. Establishment of priorities, goals, and plans for waste and release reduction, taking into account both community concerns and the potential health, safety, and environmental impacts as determined under Practices 3 and 4.

6. Ongoing reduction of wastes and releases, giving prefer-ence first to source reduction, second to recycle/reuse, and third to treatment. These techniques may be used separately or in combination with one another.

7. Measurement of progress at each facility in reducing the generation of wastes and in reducing releases to the air, water, and land by updating the quantitative inventory at least annually.

8. Ongoing dialogue with employees and members of the public regarding waste and release information, progress in achieving reductions, and future plans. This dialogue should be at a personal, face-to-face level where possible, and should emphasize listening to others and discussing their concerns and ideas.

9. Inclusion of waste and release prevention objectives in research and in design of new or modified facilities, pro-cesses, and products.

10. An ongoing program for promotion and support of waste and release reduction by others, which may, for example, include:

    a) sharing of technical information and experience with cus-tomers and suppliers.

    b) support of efforts to develop improved waste and release reduction techniques.

    c) assisting in establishment of regional air monitoring net-works.

    d) participation in efforts to develop consensus approaches to the evaluation of environmental, health, and safety impacts of releases.

    e) providing educational workshops and training materials.

    f) assisting local governments and others in establishment of waste reduction programs benefiting the general pub-lic.

11. Periodic evaluation of waste management practices associated with operations and equipment at each mem-ber company facility, taking into account community concerns and health, safety, and environmental impacts and implementation of ongoing improvements.

12. Implementation of a process for selecting, retaining, and reviewing contractors and toll manufacturers taking into account sound waste management practices that protect the environment and the health and safety of employees and the public.

13. Implementation of engineering and operating controls at each member company facility to improve prevention and early detection of releases that may contaminate ground-water.

LESSONS LEARNED

The creation and maintenance of a P2 Program necessitates an overall plan. P2 does not just happen. To be truly successful, P2 requires a systematic, integrated, consistent, organization-wide approach. This approach can be achieved through comprehensive P2 planning. A clear and understandable vision that can be made real by the organization is of primary importance for success in the program. Without a mission, the organization can have difficulty moving toward success. Everyone in the organization must see how he or she can contribute to P2 success. Top leadership must begin to understand the P2 philosophy and the application of the core values. Many times P2 starts with the individual efforts of a "champion." It may catch on with a particular process area or product group. To have it take hold organizationally, a P2 planning effort is required.

To be truly successful, P2 requires a systematic, integrated, consistent, organization-wide approach. This approach can be achieved through comprehensive P2 planning.

P2 often requires the development of awareness to accomplish the improvement effort. The building of awareness can come from training. Such training can be accomplished in a formal setting or on the job. Some larger organizations have trained facilitators on staff who work with the members of a team, managers as well as workers, as they address each specific improvement effort. Smaller companies rely on the use of P2 technical assistance providers to facilitate these efforts with on the job training assistance and other guidance. No matter how it is accomplished, the training, either formal or informal, must be effective and timely, and pursued continuously.

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Within an organization, informal groups have their own leaders and "rules" that determine, for example, the pace of work or the relationship with the top management. If the informal organization and its leaders accept a proposed change, events will proceed more smoothly; if they oppose it, change may be nearly impossible. Identify these informal group leaders. Get to know them and spend time listening to their opinions and perspective. When you understand their needs and concerns, you will better understand how the P2 changes you seek can be implemented more effectively.

Although you can learn from others' P2 success stories, real P2 success comes from the persistent application of the P2 philosophy and core values in each organization's specific environment. Success is measured differently in each organization. It cannot be achieved by simply copying others.

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When you tailor the P2 program to your organization's vision, mission, and goals, you speed its acceptance by the members of the organization. The P2 program's overall success will be ensured.

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